Minis Power Supply

Instruction Manual

Catalog Nos. Minis 150VS
Minis 150VP
Minis 300VS
Minis 300VP

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October 20, 2009

Un Packing list

Minis 150VS or Minis 150VP or
Minis 300VS or Minis 300VP:

- 1 x Smart Minis 150V or
  1 x Pink Minis 150V or
  1 x Smart Minis 300V or
  1 x Pink Minis 300V
- 1 x US Plug Power Cord or
  1 x Euro Plug Power Cord or
  1 x UK Plug Power Cord or
  1 x Israel Plug Power Cord
- 1 x Minis Power Supply Instruction Manual

Major Science is liable for all missing or damaged parts / accessories within 7 days after customer received this instrument package. Please contact Major Science immediately regarding this issue. If no response within such time period from consignee party, that will be consignee party's whole responsibility.

Packing list

Minis 150VS or Minis 150VP or
Minis 300VS or Minis 300VP:

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  1 x Pink Minis 300V
- 1 x US Plug Power Cord or
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  1 x UK Plug Power Cord or
  1 x Israel Plug Power Cord
- 1 x Minis Power Supply Instruction Manual

Signed:
Date:

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Warning

The Minis power supply series has been tested and found to comply with the limits for the CE regulation. Also, Minis power supply series is RoHS compliant to deliver confident product, which meets the environmental directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This power supply series generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this power supply series in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. It is strongly recommended the user to read carefully the following points before this equipment is operated.

1. Read and follow carefully the manual instructions.
2. Do not alter the power supply series. Failure adhered to these directions could result in personal and/ or laboratory hazards, as well as invalidate equipment warranty.
3. Use a properly grounded electrical outlet with correct voltage and current handing capacity.
4. Disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.
5. In the event, solution is accidentally spilled into the instrument, disconnect grounded plug and the user must carry out appropriate procedure or contact Major Science or the representative to replace damaged parts.
6. Do not use in the presence of flammable or combustible material; fire or explosion may result. This device contains components, which may ignite such materials.
7. Refer maintenance and servicing to qualified personnel.
8. Ensure that the system is connected to electrical service according to local and national electrical codes. Failure to properly connection may create fire or shock hazard.
9. Ensure the appropriate used materials and correct operation to avoid possible hazards of explosion, implosion or release of toxic or flammable gases arising from the materials being overheated.

10. The unit shall be operated Only by qualified personnel.

Safety Information

Use the high level of precautions against any electrical device. Before connecting with the electrical supply, check the supply voltage is within the range stated at the rating label, and this device must be earthed. Place the unit in a safe and dry location and MUST NOT touch things in the surrounding. Also do follow the safety precautions for chemicals and dangerous materials. If needed, please contact qualified service representative or service@majorsci.com

Environmental Conditions

Ensure the instrument is installed and operated strictly in the following conditions:

- ≤95% RH,
- 75 KPa-106 Kpa,
- Altitude not to exceed 2000 meters
- Ambient ~ 40℃ operating temperature.

Avoiding Electrical Shock

Follow the guidelines below to ensure safe operation of the unit.

The Minis power supply series has been designed to use with shielded wires thus minimizing any potential shock hazard to the user. Major Science recommends against the use of unshielded wires.

To avoid electrical shock:

1. In the event of solution accidentally spilled into the instrument, it must be dried out for a period of time, at least 2 hours, and restored to NORMAL CONDITION before each operation.
2. NEVER connect or disconnect wire leads from the power jacks when the red indicator light at the Start/Stop key is on.
3. WAIT at least 5 seconds after stopping a run before handling output leads or connected apparatus.
4. ALWAYS make sure that hands, work area, and instruments are **clean** and **dry** before making any connections or operating the power supply.
5. ONLY connect the power cord to a properly 3-prong grounded AC outlet, using the power cord provided with the power supply.

Avoiding Damage to the Instrument

1. Do not attempt to operate the device if it is damaged.
2. Protect this unit from physical damage, corrosive agents and extreme temperatures (direct sunlight etc).
3. For proper ventilation and safety concerns, keep at least 10 cm of space behind the instrument, and at least 5 cm of space on each side.
4. Do not operate the power supply series in high humidity environments (> 95%), or where condensation may occur.
5. When the power supply series is taken into a cold room environment, the unit can be operated immediately. However, when the power supply series is removed from the cold room environment, let the unit equilibrate to room temperature for a minimum of 2 hours before using it.
6. Prior to apply any cleaning or decontamination methods other than manufacture's recommendation, users should check with the manufacture's instruction to confirm if the proposed method will not damage the equipment.

Equipment Operation

Follow the guidelines below to ensure safe operation of the unit:

1. It must be checked the displayed figure to see if it is in the normal condition for use before using this unit.
2. NEVER access dangerous chemistry or other material to prevent possible hazards of explosion and damage.

Symbol

The symbols used on the Minis Power Supply are explained below.

Used on the Minis Power Supply to indicate an area where a potential shock hazard may exist.

Used on the Minis Power Supply to indicate a warning. Consult the manual to avoid possible personal injury or instrument damage.

Used on Minis Power Supply to indicate a disposal instruction.

DO NOT throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. To ensure utmost protection of the global environment and minimize pollution, please recycle this unit.

Product Specifications

Max. Watt	60W
Output Type	Constant voltage
Max. Voltage	**150V** for Minis 150VS and Minis 150VP **300V** for Minis 300VS and Minis 300VP
Max. Current	**600mA** for Minis 150VS and Minis 150VP **400mA** for Minis 300VS and Minis 300VP
Voltages Selection	**25V, 50V, 75V, 100V, 125V, 150V** for Minis 150VS and Minis 150VP **50V, 100V, 150V, 200V, 250V, 300V** for Minis 300VS and Minis 300VP
Terminator Pairs	Two pairs
Timer	1~999 mins with alarm, continuous
Safety Device	No Load detection Shrouded plugs and sockets
Operating Temperature	Ambient ~ 40 ˚C
Unit Dimension	115 x 150 x 80mm (W x L x H)
Construction Material	Flame retardant ABS and Aluminum
Weight	approx. 0.6 kg
Rated Voltages	100~240V; 50/60 Hz

Product Description

Major Science Smart Minis 150V power supply (Cat. No. Minis 150VS) and Pink Minis 150VP power supply (Cat. No. Minis 150VP) are microprocessor-controlled mini power supplies designed to meet most electrophoresis needs in a personal, single, easy to use unit. The Minis 150V power supply is capable of running DNA/RNA electrophoresis, whilst Smart Minis 300V power supply (Cat. No. Minis 300VS), and Pink Minis 300V (Cat. No. Minis 300VP) power supply are equipped with ever higher voltage, sufficient for SDS-PAGE, and native PAGE applications. Furthermore, the powerful specifications ensure two pairs of terminator pairs can be used simultaneously even though Minis 150V power supply and Minis 300V power supply are both in a very compact size. The Minis Power Supply is designed for individuals to have his/her own power supply unit plus the packages with Mini Horizontal Electrophoresis system in laboratories to efficiently handle multiple electrophoresis gel tanks reducing the interrupting others' experiments and time waiting for the instrument. The Minis power supply only uses a small amount of lab bench space at very reasonable price. In addition, Minis 150V power supply series and Minis 300V power supply series are both offered in two different colors as alternatives for customers.

Features Comparison

Minis 150V power supply:

- Compact size
- Power capacity: 60W, 600mA, 150V
- 6 constant voltages: 25V, 50V, 75V, 100V, 125V, 150V
- Timer
- No load detection
- Shrouded plugs and sockets
- Two pairs of outlet terminator
- Output voltage stability
- Economic price
- Bundled package with MJ-105-S, MJ-105-R, and MT-108

Minis 300V power supply:

- Compact size
- Power capacity: 60W, 400mA, 300V
- 6 constant voltages: 50V, 100V, 150V, 200V, 250V, 300V
- Timer
- No load detection
- Shrouded plugs and sockets
- Two pairs of outlet terminator
- Output voltage stability
- Economic choice for larger horizontal electrophoresis & 10 x 10 cm vertical electrophoresis
- Bundled package with ME15-15 and MV-10

Introduction

Overview

Major Science Minis 150V and 300V Power Supplies are recognized as very unique power supply equipped with very powerful specifications to cover the majority of electrophoresis applications on the market. Sufficient and accurate output voltages, two pairs of terminator and compact size, RoHS and CE compliance for environmental and safety concerns can deliver accurate and reliable experimental results from one experiment to another. Package offerings are another feature for users' convenience and budget saving.

Front of Unit - example of Pink Minis 300V power supply

Note: The other three modes share the same configurations and features as Pink Minis 300V power supply

Rear of Unit - example of Pink Minis 300V power supply

Note: The other three modes share the same configurations and features as Pink Minis 300V power supply

Controls and Features

Please refer to Figures on the following page for the location of the following controls and features.

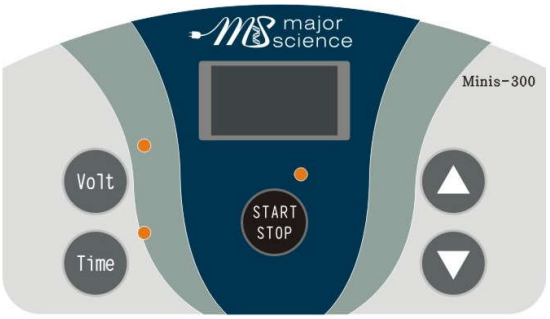
Smart Minis 150V

Cat. No.: Minis 150VS

Pink Minis 150V

Cat. No.: Minis 150VP

Smart Minis 300V



Cat. No.: Minis 300VS

Pink Minis 300V

Cat. No.: Minis 300VP

Front Control Panel

1. **Key** -- to increase either Voltage or Time value
2. **Key** - to decrease either Voltage or Time value
3.

Key – to activate or stop the unit

4.

Key – to select Voltage value

5.

Key – to set or select Timer mode

6. **START/STOP** –This LED light indicates the unit is ON or OFF

7. **Volt Temp** – This LED light indicates Voltage is on set value.

8. **TIMER** – This LED light indicates on Timer Mode

Installation Instructions

Minis Power Supply is actually an already installed instrument. As long as it is placed on a sturdy and level surface in a safe, dry place, and further connects with well-prepared electrophoresis system, it is ready for operation.

Operation Instructions

1. Place Minis Power Supply series on a sturdy and level surface in a safe, dry place, away from laboratory traffic.

2. Ensure that the AC power switch is OFF, and then plug the three-pronged power cord into a grounded three-prong AC outlet of the appropriate voltage (110V to 240V as indicated on the rating sticker near the AC cord on the back of the unit).

3. Turn the AC power ON by the switch on the rear.

4. Connect the DC output jacks from the electrophoresis unit; insert the red lead (+) into the red output jack, and the black lead (-) into the black output jack.

6. Press

Key to select the suitable voltage.

7. Press

Key, and then press Key or Key to adjust timer upon your request if setting time is required. It will auto stop while timer is up.

8. Press

Key to start the run. The LED is lit.

9. Press

Key again to stop the unit at any time if necessary.

10. When the run is completed, Press

Key to terminate a timed run, and Turn the AC power OFF by the switch on the rear.

Troubleshooting Guide

Many operating problems may be solved by carefully reading and follow the instructions in this manual accordingly. Some suggestions for troubleshooting are given below. Should these suggestions not resolve the problem, contact our SERVICE DEPARTMENT or a distributor in your region for assistance. If troubleshooting service is required, please include a full description of the problem.

Problem	Cause	Solution
No Display / lights	No AC power	Check if Minis power supply is unplugged, or AC power source problem
	AC power cord is not connected	Check AC power cord connections at both ends. Use the correct cords.
	The fuse has blown	Replace the fuse
Repeated fuse broken	Hardware failure	Contact Major Science service department
Operation stops	Electrophoresis leads are not connected to the power supply or to the electrophoresis unit(s), or there is a broken circuit in the electrophoresis cell	Check the connections to the power supply and on your electrophoresis cell to make sure the connection is intact; check condition of wires in electrophoresis unit. Close the circuit by reconnecting the cables. Press **START/STOP** to restart the run.
	High resistance due to tape left on a pre-cast gel, incorrect buffer concentration, or incorrect buffer volumes in the electrophoresis cell	Correct the condition by making sure the tape is removed from the pre-cast gel, buffers are prepared correctly, and the recommended volume of buffer is added to the electrophoresis unit.

Encountering Problems

1. Check the troubleshooting section.
2. Call Technical Service or e-mail to service@majorsci.com
3. If the unit must be shipped back for repair, contact Major Science or the distributor for a Return Authorization Number and shipping instructions. The unit will be repaired as quickly as possible and returned to you.

Replacing the Fuse

For additional fuses, contact Major Science co. ltd.
To replace the fuse:

1. Turn off the main power switch at the rear of Minis 150V / Minis 300V Power Supply and detach the power cord from the rear of Minis 150V / Minis 300V Power Supply.

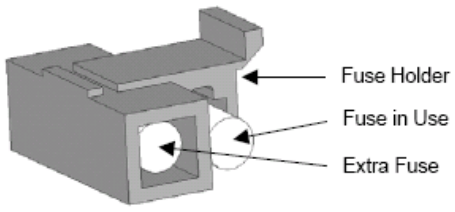
2. Open the fuse compartment located inside the Power Entry Module by inserting a small flat blade screwdriver into the slot below the ON/OFF switch. Turn the screwdriver to gently pry open the fuse compartment.

Note: The fuse compartment will not open with the power cord in place.

3. Pull the fuse holder out of the compartment and inspect the fuse. If the fuse is burned or there is a break in the fuse element, replace the fuse with an identical type of fuse (Minis150/2A & Minis300/2A) as provided in the fuse holder (see figure below).

4. Place the fuse holder back into the compartment.

5. Snap the cover closed.



Maintenance

Minis 150V and 300V Power Supply uses all solid-state components and should require no maintenance or recalibration under normal use. If the unit must be returned for repair, contact our **SERVICE DEPARTMENT** or your local distributor for shipping instruction.

Ordering Information

Minis 150V Power Supply

Cat. No.	*Description*
Minis 150VS	Smart Minis150V Power Supply
Minis 150VP	Pink Minis150V Power Supply

One Electrophoresis Packages

MJS-150VS	Package of MJ-105-S and Smart Minis 150V
MJR-150VS	Package of MJ-105-R and Smart Minis 150V
MJS-150VP	Package of MJ-105-S and Pink Minis 150V
MJR-150VP	Package of MJ-105-R and Pink Minis 150V

Dual Electrophoresis Packages

MJSS-150VS	Package of 2 x MJ-105-S and Smart Minis150V
MJRR-150VS	Package of 2 x MJ-105-R and Smart Minis150V
MTT-150VS	Package of 2 x MT-108 and Smart Minis150V
MJSR-150VS	Package of MJ-105-S&-R and Smart Minis150V
MJST-150VS	Package of MJ-105-S & MT-108 and Smart Minis150V
MJRT-150VS	Package of MJ-105-R & MT-108 and Smart Minis150V
MJSS-150VP	Package of 2 x MJ-105-S and Pink Minis150V
MJRR-150VP	Package of 2 x MJ-105-R and Pink Minis150V
MTT-150VP	Package of 2 x MT-108 and Pink Minis150V
MJSR-150VP	Package of MJ-105-S&-R and Pink Minis150V
MJST-150VP	Package of MJ-105-S & MT-108 and Pink Minis150V
MJRT-150VP	Package of MJ-105-R & MT-108 and Pink Minis150V

One Electrophoresis Packages

MJS-150VS

MJR-150VS

MT-150VS

MJS-150VP

MJR-150VP

MT-150VP

Dual Electrophoresis Packages

MJSS-150VS

MJRR-150VS

MTT-150VS

MJSR-150VS

MJST-150VS

MJRT-150VS

MJSS-150VP

MJRR-150VP

MTT-150VP

MJSR-150VP

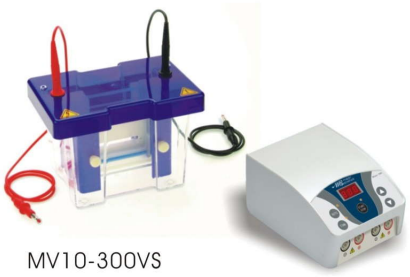
MJST-150VP

MJRT-150VP

Minis 300V Power Supply

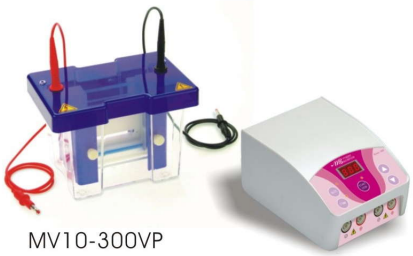
Cat. No.	*Description*
Minis 300VS	Smart Minis 300V Power Supply
Minis 300VP	Pink Minis 300V Power Supply
ME15-300VS	Package of ME15-15 and Smart Minis 300V
ME15-300VP	Package of ME15-15 and Pink Minis 300V
MV10-300VS	Package of MV-10 and Smart Minis 300V
MV10-300VP	Package of MV-10 and Pink Minis 300V

ME15-300VS



MV10-300VS

ME15-300VP



MV10-300VP

Warranty

Major Science warrants apparatus of its manufacture against defects in materials and workmanship, under normal service, for ***two years from the shipping date to purchaser***. This warranty excludes damages resulting from shipping, misuse, carelessness, or neglect. Major Science's liability under the warranty is limited to the receipt of reasonable proof by the customer that the defect is embraced within the terms of the warranty. All claims made under this warranty must be presented to Major Science within two years following the date of delivery of the product to the customer.

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Major Science Co., Ltd.

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